



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/055,546

01/23/2002

Kyle G. Brown

RSW920010178US1

8874

7590

02/09/2005

Gerald R. Woods  
IBM Corporation T81/503  
PO Box 12195  
Research Triangle Park, NC 27709

EXAMINER

NGUYEN, VAN H

ART UNIT

PAPER NUMBER

2126

DATE MAILED: 02/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/055,546

**Applicant(s)**

BROWN ET AL.

**Examiner**

VAN H NGUYEN

**Art Unit**

2126

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

1. This Office Action is in response to the application filed on January 23, 2002.
2. Claims 1-13 are presented for examination. Claims 1, 6, and 10 are independent claims.

#### ***Specification***

2. The disclosure is objected to because of the following informalities:  
“services fo Figure 1” (page 6, line 8) should read “services of Figure 1”  
Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:  
  
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claims 7, 8, 11, and 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
  - a. As to claims 7 and 11, “said new communication link” lacks antecedent basis.  
Claims 7 and 11 have no “a new communication link” term that defines or supports the given reference.

Art Unit: 2126

- a. As to claims 8 and 12, "said requested service" lacks antecedent basis. Claims 8 and 12 have no "a requested service" term that defines or supports the given reference.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1, 2, 6, 7, 9-11, and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Moore et al. (U.S. 6,408,342 B1).

7. **As to claim 1:**

Moore teaches the invention as claimed including a multi-protocol object distribution system (*e.g., a communication framework supporting multiple communications protocols; see the abstract and col.6, lines 23-32*) comprising:

- a. a plurality of remote procedure call transport protocol stubs (*e.g., ONC RPC, DCE RPC, CORBA IIOP, SMTP, SNMP, HTTP, and Java/RMI. Corresponding to each protocol is a Remote Procedure Call Transport 305; col.8, lines 1-4*); and

Art Unit: 2126

- b. a meta-stub configured to select individual ones of the RPC transport protocol stubs through which distributed object services can be provided to requesting clients in the object distribution system (*e.g., The Stub object 303 contains a decision logic for determining which protocol to use in accessing the target object of a remote method invocation...the protocol with the matching the Quality of Service (QoS) required by the Stub 303 is selected; col.19, lines 37-54*).

8. **As to claim 2:**

Moore teaches the RPC transport protocol stubs comprise: a default RPC transport stub (*e.g., a current binding for the ObjectReference 501; col. 20, lines 2-5*), the meta-stub having a further configuration for automatically selecting the default RPC transport stub by default (*e.g., the selection of a protocol is dynamic; col. 7, lines 52-53*); and, at least one other RPC transport stub which the meta-stub can select based upon changing conditions in the object distribution system (*e.g., protocol is being used may changed from one invocation of a remote method to the next ; col.7, lines 53-54*).

9. **As to claim 6:**

Moore teaches the invention as claimed including in a multi-protocol object distribution system (*e.g., a communication framework supporting multiple communications protocols; see the abstract and col.6, lines 23-32*), a remote procedure call processing (*e.g., a remote procedure call class, one remote procedure call transport; see the abstract*) method comprising:

Art Unit: 2126

- a. receiving an RPC request for services from a distributed object in a server in the multi-protocol object distribution system (*e.g., the Stub object receives a remote method invocation; col. 20, lines 1-2 and fig. 12*);
- b. establishing a communicative link with the distributed object using a default RPC transport mechanism (*e.g., if there is a current binding for the ObjectReference 501, the decision logic attempts to establish the connection using that current binding; col. 20, lines 2-5 and fig. 12*), and querying the distributed object over the communicative link for other RPC transport mechanisms (*e.g., querying the various registered RPC Transports 305; col.21, lines 8-10 and lines 36-43*) which are supported by the server (*e.g., those registered in the supported protocols list 417; col. 21, lines 9-10*);
- c. selecting one the other RPC transport mechanisms (*e.g., the protocol with the matching the Quality of Service (QoS) required by the Stub 303 is selected; col.19, lines 51-54*) and re-establishing the communicative link with the distributed object using the selected RPC transport mechanism (*e.g., If the queried RPC Transport 305 indicates that it can make the connection and meet any required QoS conditions, step 624, the decision logic attempts to establish the connection ... indicating that a communication channel has been established; col.21, lines 13-22*); and
- d. processing the RPC request for services from the distributed object over the re-established communicative link (*fig. 12 and 13 show the purpose of selecting a*

*protocol and establishing a communication link is to process the RPC request for services).*

**10. As to claim 7:**

Moore teaches detecting a deterioration in communications over the new communicative link (*e.g., if the QoS provided by an RPC Transport 305 deteriorates during the course of the execution of a program; col.21, lines 44-46*); further reestablishing the communicative link with the default RPC transport mechanism; and, continuing to process the RPC request for services over the further reestablished communicative link (*e.g., repeat the procedures of FIGS. 13 and 12 at any invocation of a method of a remote object; col.21, line 44-50*).

**11. As to claim 9:**

Moore teaches surveying network conditions (*e.g., querying the various registered RPC Transports 305; col.21, lines 8-9*); and, selecting one of the RPC transport mechanisms best suited to provide a predetermined level of Quality of Service (QoS) in view of the surveyed network conditions (*e.g., If the queried RPC Transport 305 indicates that it can make the connection and meet any required QoS conditions, step 624, the decision logic attempts to establish the connection; col.21, lines 14-18*).

**12. As to claims 10, 11, and 13:**

Note the rejection of claims 6, 7, and 9 above. Claims 10, 11, and 13 are the same as claims 6, 7, and 9, except claims 10, 11, and 13 are machine readable storage claims and claims 6, 7, and 9 are method claims.

***Claim Rejections - 35 USC § 103***

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

14. Claims 3-5, 8, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Moore et al.** in view of **Mein et al.** (U.S. 6,782,542 B1).

15. **As to claim 3:**

- a. Moore does not specifically teach a simple object access protocol over hypertext transfer protocol stub.
- b. Mein teaches a simple object access protocol over hypertext transfer protocol stub (*e.g., A Simple Object Access Protocol ... layered on top of HTTP; col.3, lines 18-21*).
- c. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Mein with Moore because Mein's teachings would have allowed Microsoft Component Object Model



Automation objects to be accessed and methods to be invoked over the Internet through Web servers protected by firewalls.

16. **As to claim 4:**

Refer to the discussion of claim 3 above for the use of a SOAP over HTTP stub.

17. **As to claim 5:**

Moore teaches the RCP transport protocol stubs further comprises, among other things, a remote method invocation (*e.g., Java/RMI; col. 7, lines 16-19 and col.8, lines 5-8*) over Internet Inter-ORB Protocol stub (*e.g., CORBA IIOP; col. 7, lines 16-19 and col.8, lines 5-8*).

18. **As to claim 8:**

- a. Moore does not specifically teach determining whether the requested service implicates asynchronous or synchronous messaging; and, selecting an optimal RPC transport mechanism supported by the server based upon the determination.
- b. Mein teaches determining whether the requested service implicates asynchronous or synchronous messaging; and, selecting an optimal RPC transport mechanism supported by the server based upon the determination (*e.g., when the server 30 receives the HTTP POST message...invokes a SOAP stub...based on an identifier contained in the header of the data structure; col.5, lines 39-45*).
- c. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Mein with Moore because Mein's teachings would have provided the capability for efficiently performing protocol-mandated data transformations.

Art Unit: 2126

19. **As to claim 12:**

Note the rejection of claim 8 above. Claim 12 is the same as claim 8, except claim 12 is a machine readable storage claim and claim 8 is a method claim.

***Conclusion***

20. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- (i) Ismael et al. (US 6851118) teaches "Remote object access."
- (ii) Zhdankin et al. (US 6757899) teaches "Dynamic CORBA gateway for CORBA and non-CORBA clients and services."
- (iii) Wollrath et al. (US 6487607) teaches "Methods and apparatus for remote method invocation."
- (iv) Vasudevan et al. (US 6446137) teaches "Remote procedure call system and method for RPC mechanism independent client and server interfaces interoperable with any of a plurality of remote procedure call backends."
- (v) Hill et al. (US 5724588) teaches "Method and system for network marshalling of interface pointers for remote procedure calls."
- (vi) Clark et al. "Multi-protocol architecture as a paradigm for achieving interoperability" 1993 IEEE, pp. 136-143.
- (vii) Dao et al. "Remote procedure call protocols for real- time systems" 1991 IEEE, pp. 216-223.

Art Unit: 2126

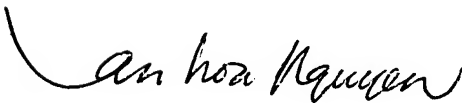
21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to VAN H. NGUYEN whose telephone number is (571) 272-3765. The examiner can normally be reached on Monday-Thursday from 8:30AM - 6:00PM. The examiner can also be reached on alternative Friday.
22. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (571) 272-3756.
23. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.
24. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**Any response to this action should be mailed to:**

Commissioner for patents

P O Box 1450

Alexandria, VA 22313-1450



Van H. Nguyen